

REMARKS

Claims 1, 3-11, 13-20, 22-27, 29-31 and 63-76 are pending in this application. Claims 1, 11, 20 and 27 have been amended. Claims 2, 12, 21 and 28, indicated as allowable, have been canceled and their subject matter respectively incorporated in amended independent claims 1, 11, 20 and 27. New claims 63-76 have been added to round out the scope of protection afforded by the invention. No new matter has been introduced.

A proposed drawing amendment labeling Figures 1 and 2 as "Prior Art" is submitted for the Examiner's approval. The title of the invention has been amended to more clearly describe the subject matter of the claimed invention.

Claims 20 and 22-26 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In particular, the Office Action notes that there is insufficient antecedent basis for the limitation "said pinned layer" of claim 20. (Office Action at 3). Claim 20 has been amended to recite the limitation "said surface layer" and to correct, therefore, the lack of antecedent basis. Applicant notes that all pending claims are now in full compliance with 35 U.S.C. § 112.

Claims 1, 3-9, 11, 13-18, 20 and 22-25 stand rejected under 35 U.S.C. §102(b) as being anticipated by Lee et al. (U.S. Patent No. 5,625,210). Claims 10, 19, 26, 27 and 29-31 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Lee et al. (U.S. Patent No. 5,625,210) in view of Chen et al. (U.S. Patent No. 6,512,280). These rejections are respectfully traversed. As noted, the subject matter of allowable claims 2, 12, 21 and 28 has now been respectively incorporated in amended independent claims 1, 11, 20 and 27. Accordingly, claims 1, 3-11, 13-20, 22-27 and 29-31 are now in condition for allowance.

New claims 63-76 have been added to round out the scope of protection afforded the invention. Applicant submits that none of the cited prior art references, considered alone or in combination, discloses, teaches or suggest a "photodiode for use in an imaging device" comprising "a first layer . . . formed in a substrate and laterally displaced from an electrically active portion of gate of a charge transfer transistor by a distance of about 0 Angstroms to about 5,000 Angstroms," "a doped region of a second conductivity type" and "a charge collection region . . . in contact with at least a portion of said transistor gate, said gate transferring charge accumulated in said charge collection region to said doped region of said second conductivity type," as newly added independent claim 63 recites. Applicant also submits that none of the cited prior art references, alone or in combination, discloses, teaches or suggest an "image pixel" comprising "a gate structure of a transistor," "an insulating layer provided over and in contact with said gate structure" and "a photodiode . . . comprising a pinned layer . . . and a doped region . . . spaced from said electrically active portion of said gate, and said pinned layer being laterally displaced from an electrically active portion of said gate by at least a thickness of said insulating layer," as newly added independent claim 69 recites.

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Allowance of claims 1, 3-11, 13-20, 22-27, 29-31 and 63-76 is respectfully
requested.

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Respectfully submitted,

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AMENDMENTS TO THE DRAWINGS

The attached sheet of drawings includes a request for labeling Figures 1 and 2 as "Prior Art" for Examiner's approval.

Attachment: Replacement sheet